



Idaho National Laboratory

Greening the Idaho National Laboratory – Successes, Issues, and Lessons-learned

**Bruce M. Angle
August 27, 2009**

Bruce Angle

- **Bruce has a degree in chemistry, which led to jobs in a commercial analytical and radioanalytical laboratory early in his career.**
- **The radioanalytical experience led, shortly after Three Mile Island, to a short-lived job in the declining uranium mining industry.**
- **He then dove head first into the DOE world performing radiation safety and environmental work at Hanford's PUREX facility just in time for its last production campaign.**
- **From there, he jumped to Idaho to work at the Idaho Chemical Processing Plant, as nuclear fuel reprocessing came to a close in the US.**
- **Following 17 years with various contractors at the Idaho National Engineering Laboratory and Idaho National Engineering & Environmental Laboratory, a lab without a mission or a future, he has finally gotten his career on track.**
- **He now works for Battelle Energy Alliance at the Idaho National Laboratory - a laboratory with an important mission and an exciting future - Leading the Renaissance in Nuclear Energy. Bruce is currently responsible for maintaining INL's Environmental Management System and ISO 14001 Registration.**

Greening INL

- **INL has been implementing greening initiatives both informally and formally since becoming INL in February 2005. The process has become increasingly formal over time.**
- **Each of these greening activities has had some measure of success, however some raised issues that had to be overcome, and resulted in lessons-learned that can be helpful in implementing future initiatives.**

Greening INL

Some often heard phrases:

- **That's not the way we do things around here!**
- **My situation is unique, this doesn't apply to me!**
- **Why should this work here? It hasn't worked anywhere else!**
- **That costs money!**
- **It really won't make a difference!**

Greening INL

The Challenges:

- That really isn't the way we do things around here, so we need to change.
- His situation really is unique, and it shouldn't apply to him, so exceptions might be necessary.
- It really hasn't worked anywhere else, so we need to find out why.
- It might not cost money, if you're creative.
- Find ways for it to make a difference.

“It’s too complicated to separate stuff”

- **Solution - Implement a single stream recyclable waste collection process.**
 - **Success**
 - **Convinced a recycler to separate co-mingled waste at his facility**
 - **Implemented at In-town facilities, being implemented at Site facilities**
 - **Remaining issues**
 - **Transport of recyclable material from site to recycler – our drivers or theirs**
 - **Lesson-learned**
 - **The stumbling blocks aren’t necessarily what you think they will be.**

“They’re sensitive documents and have to go to a secure landfill.”

- **Solution - Implement an efficient office paper collection and records destruction process so the paper can be recycled.**
 - **Success**
 - **Obtained a DOE exemption to disposal requirements**
 - **Provided locked disposal bins where records could be placed prior to being commercially shredded.**
 - **Remaining Issues**
 - **Limited pilot program, continuation depends on our performance.**
 - **Lesson-Learned**
 - **Take the small gains and manage them well to leverage larger gains.**

“I know bottled water is expensive and generates waste, but its so convenient.”

- **Solution: Worked with a vendor to provide reusable insulated drinking containers for employees.**
 - **Success**
 - **For one recent safety fair, a vendor provided 800 sturdy, insulated drinking mugs.**
 - **Remaining issues**
 - **800 mugs was not enough to meet the demand.**
 - **Lessons Learned**
 - **Employees will use green alternatives if available.**

“The recyclers won’t accept our waste.”

- **Solution - Educate cafeteria personnel about recyclable food containers and removal of food scraps.**
 - **Success**
 - **Some cafeterias have switched away from styrofoam to recyclable paper.**
 - **Employees understand that removal of food scraps increases the amount that can be recycled.**
 - **Remaining issues**
 - **Some coated paper can’t be recycled.**
 - **Lessons Learned**
 - **You can’t just change things, you have to communicate the changes to the people who need to know.**

“I like my computer ready to go when I am.”

- **Solution - Implement centrally-managed computer energy savings modes to reduce power consumption and that maintain accessibility.**
 - **Success**
 - **All computers on the site start out with energy saving features enabled, all centrally managed computers are maintained that way. Computers are never turned off centrally.**
 - **Remaining Issues**
 - **Many users still not turning off computers at night and on weekends.**
 - **Lesson Learned**
 - **There are legitimate exceptions, accommodate them and assist in managing them.**

“We don’t have good, energy-efficient work space.”

- **Solution - Assist in planning and development of LEED standards for new construction projects.**
 - **Success**
 - **A new \$45M laboratory building, currently beginning construction is designed to meet LEED Gold**
 - **All <\$5M new construction meets the DOE 430.2B requirements**
 - **Remaining issues**
 - **INL has little influence over the construction of leased buildings, which are often the fast-track solution to expansion needs**
 - **Lessons Learned**
 - **Greater attention is needed when negotiating for leased space.**

“Its not safe to just switch off the lights, even if I knew where the switches were.”

- **Solution - Install automatic motion sensing switches that turn off lights**
 - **Success**
 - **Motion sensing lights installed in newest office spaces.**
 - **Some retrofitting of older office space.**
 - **Remaining issues**
 - **Cost of updating older office space is borne by the tenant, and it is typically not a priority.**
 - **Lessons Learned**
 - **Some improvements may not prioritize high enough to get done, work to change the priority.**

“I didn’t think to look for a green product, especially for what I’m doing.”

- **Solution - Implementing procedures to purchase green products when possible.**
 - **Success**
 - **The search for green products has been built into our procurement process, and into project planning.**
 - **Remaining issues**
 - **Substitution not always possible in a research environment.**
 - **Lessons Learned**
 - **Costs and availability remain deciding factors in areas where substitution is possible.**

“We need strong cleaning products to do our job.”

- **Solution - Work with janitorial subcontractor to use only green janitorial chemicals.**
 - **Success**
 - **Some janitorial products have been replaced with green alternatives.**
 - **Remaining issues**
 - **Costs, in time and money, can be deciding factors**
 - **Lessons Learned**
 - **The janitorial service has leveraged their green leadership into a competitive advantage outside of INL.**

“I only need a small amount, but I have to buy a whole bottle.”

- **Solution - Develop a database of chemicals that can be shared by users to reduce chemical purchases.**
 - **Success**
 - **Chemical coordinators will manage surplus chemicals so that they can be shared.**
 - **Remaining issues**
 - **Purity concerns often limit willingness to use someone else's surplus chemical.**
 - **Lessons Learned**
 - **Sharing surplus chemicals is working best for commercial grade chemicals where purity concerns are less important.**

“I don’t know how I can make a difference.”

- **Solution - Recruit a team of volunteers to help with community Earth day and city-wide cleanup events.**
 - **Success**
 - **Fully staffed the most recent city-wide hazardous waste collection day with qualified volunteers.**
 - **Remaining issues**
 - **Finding effective outreach strategies to identify and communicate opportunities for volunteers.**
 - **Lessons Learned**
 - **Employees want to participate in meaningful volunteer activities.**

Conclusion

- **I'm proud to work at INL, and I'm even more proud to be representing the people who managed the initiatives that we've just been talking about. They deserve a lot of credit.**
- **The best recognition they can receive is from others who want to do what they did.**

Points of Contact

- Co-mingled waste recycling, Sensitive document recycling, Reusable drink containers, Recyclable food containers
 - Jennifer Morton, Jennifer.Morton@inl.gov, (208) 526-0795,
- Computer energy savings
 - Carl Fennen, Carl.Fennen@inl.gov, (208) 526-2222
- LEED Standards and Energy Savings
 - Ernest Fossum, Ernest.Fossum@inl.gov, (208) 526-2513
- Green Procurement
 - Cathy Salazar, Catherine.Salazar@inl.gov, (208) 526-3072
- Green Janitorial Products, Chemical Sharing, Recruiting Volunteers
 - Scott Lee, Scott.Lee@inl.gov, (208) 526-8123